



FortiExtender 100B

QuickStart Guide



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Package Contents

Fortinet's consolidated security solutions provide an integrated set of core security and network services. The FortiExtender is a wireless WAN extender for 3G/4G modems.

Your box contains the following:

- FortiExtender 100B
- QuickStart Guide with Wall Mount Template
- Power Adapter
- PoE Injector
- Ethernet Cable
- USB Extension Cable
- Wall/Pole Mounting Hardware Kit
- Modem Fastener
- 2 Rubber Caps



Connecting Your Device

Note: Supported modems and ISPs vary by FortiExtender and FortiGate firmware. For the hardware compatibility matrix, see the product [data sheet](#) or release notes.

Note: The included PoE injector must be mounted indoors, as it is not weatherproof.

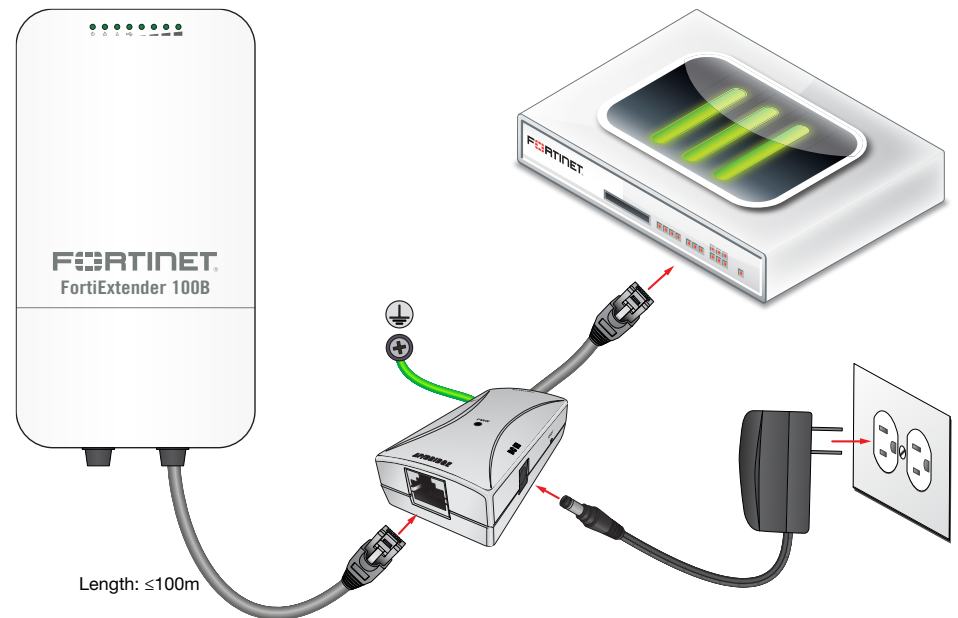
Caution: Only use the provided PoE injector and power adapter (PN: P11571) with this device. Using a different PoE injector or power adapter may cause damage to the unit.

To install the 3G/4G modem:

1. Remove the screw on the back of the unit that secures the lower housing cover in place then slide the housing cover off of the unit.
2. Use the provided USB extension cable to connect your 3G/4G modem to the device.
3. Use the provided modem fastener to secure the modem inside the housing.

To connect the FortiExtender unit:

1. Insert the provided Ethernet cable through one of the holes on the bottom of the housing cover, then plug it into the Ethernet port.
2. Slide the rubber plug around the Ethernet cable and firmly press it into the hole on the housing cover that the cable passes through.
3. Replace the lower housing cover on the unit then and reinsert the housing screw.
4. If you are using the provided PoE injector:
 - a. Insert the other end of the Ethernet cable into the AP/Bridge port on the injector, then plug the injector into an appropriate electrical outlet using the provided power adapter.
 - b. Connect an Ethernet cable from the LAN port of the PoE injector to a FortiGate, FortiWiFi, or FortiSwitch device.
5. If you are not using the PoE injector:
 - a. Insert the other end of the Ethernet cable into a PoE LAN port on an appropriate FortiGate, FortiWiFi or FortiSwitch device.



6. By default, FortiExtender configuration is hidden in the FortiGate Web-based Manager. Enable it using the following commands in the FortiGate Command Line Interface (CLI):

```
config system global
    set fortiextender enable
    set wireless-controller enable
end
```
7. The Control And Provisioning of Wireless Access Points (CAPWAP) service must be enabled on the port to which the FortiExtender unit is connected using the following CLI commands:

```
config system interface
    edit [port]
        set allowaccess capwap
    end
```
8. You can now proceed with configuring your FortiExtender unit.

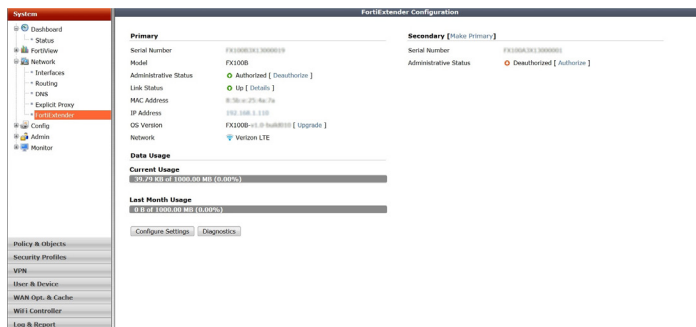
Configuring Your Device

The FortiExtender unit is designed to require no configuration in most networks. Once linked, the FortiGate will automatically control the FortiExtender unit and its modem via a CAPWAP tunnel. Automatic configuration works if the unit is on the same layer 2/3 network and subnet as the FortiGate or FortiWiFi unit.

If the FortiExtender's IP address cannot be determined automatically, or if the network uses static IP addresses, it can be configured to use a static IP address.

To automatically enable the FortiExtender:

1. Connect the FortiExtender unit as described in "Connecting Your Device" on page 2, the unit requests an IP address from the DHCP server.
2. In the FortiGate Web-based Manager, go to *Network > FortiExtender*, and select *Authorize* for the added FortiExtender.

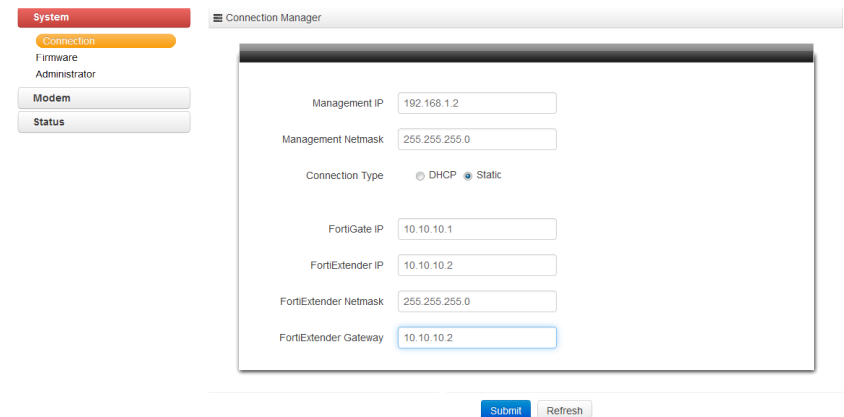


Once the device has been authorized, select *Configure Settings* to configure the FortiExtender settings as needed.

For more information, see the FortiGate Handbook, available in the Fortinet Document Library, <http://docs.fortinet.com>.

To enable the FortiExtender with a static IP address:

1. Connect the FortiExtender device to a separate private switch or hub, or directly to your management computer via a cross-over cable.
2. Configure the management computer to be on the same subnet as the internal interface of the FortiExtender unit by changing the IP address of the management computer to *192.168.1.1* and the netmask to *255.255.255.0*.
3. Start a browser of your choice and browse to IP address *192.168.1.2*.
4. Type *admin* in the *Name* and *Password* fields, and press *Enter*.
5. In the FortiExtender Web-based Manager, go to *System > Connection*.
6. In the *Connection Type* field, select *Static*, then enter the required IP addresses, netmask, and gateway.
7. Select *Submit* to apply your changes.



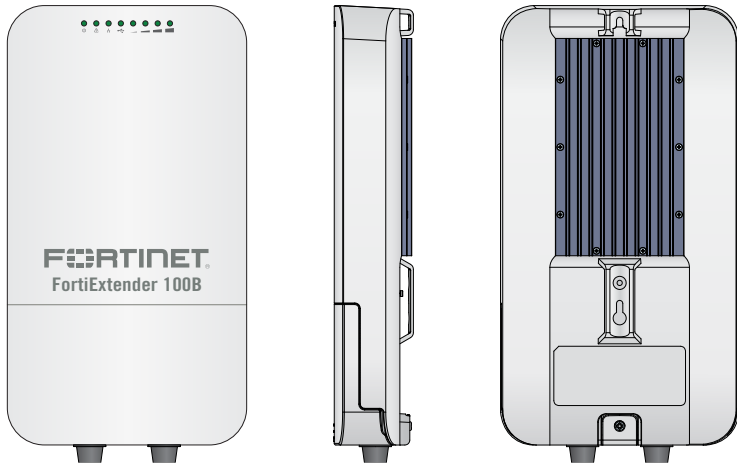
8. Disconnect the device from the management computer, move it to the intended deployment location, and reconnect it as described in "Connecting Your Device" on page 2.
9. In the FortiGate Web-based Manager, go to *Network > FortiExtender* and select *Authorize* for the added FortiExtender.

Once the device has been authorized, select *Configure Settings* to configure the FortiExtender settings as needed.

For more information, see the FortiGate Handbook, available in the Fortinet Document Library, <http://docs.fortinet.com>.

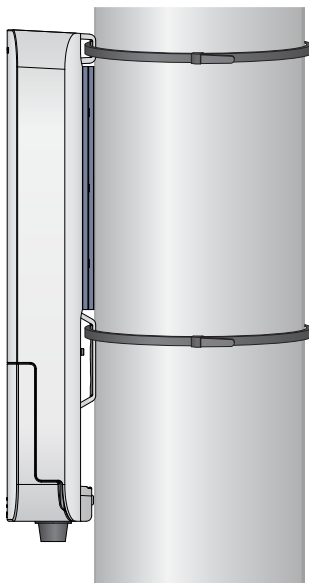
Mounting Your Device

Using the provided hardware, the FortiExtender unit can be attached to a wall or pole.



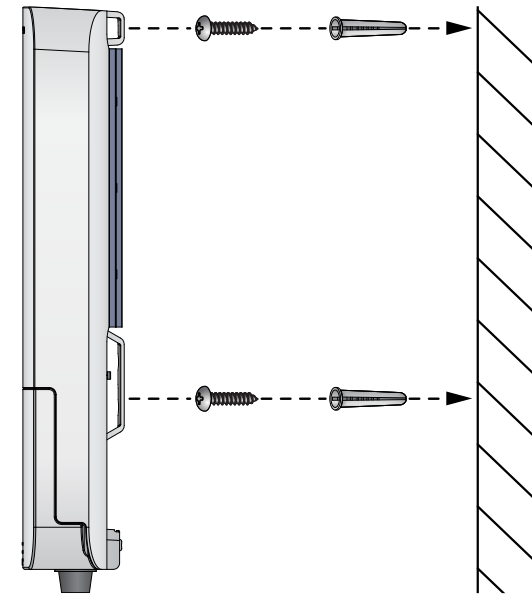
To attach the unit to a pole:

1. Loop the cable belts through the slots on the rear of the device and then around the pole.
2. Tighten the belts to ensure that the device is firmly in place.



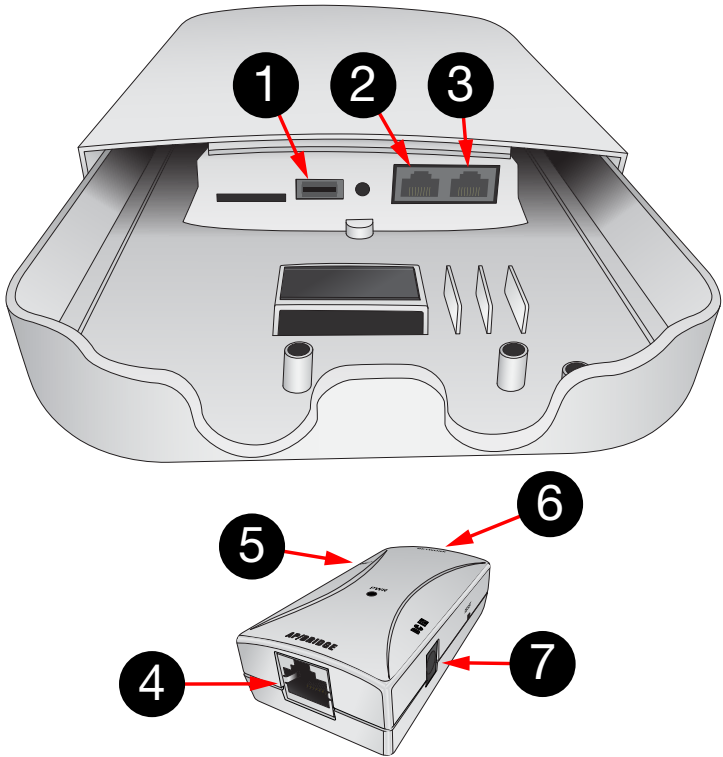
To attach the unit to a wall:

1. Select an appropriate location and, using the provided mounting template, mark the location on the wall where the anchors will be located.
2. Drill holes into the wall or ceiling in the marked locations with an appropriately sized drill bit then insert the provided anchors into the holes.
3. Screw the provided screws into the two anchors, leaving enough of the screws exposed to ensure that the unit can be mounted on them.
4. Mount the FortiExtender unit onto the screws and ensure that it is mounted securely.



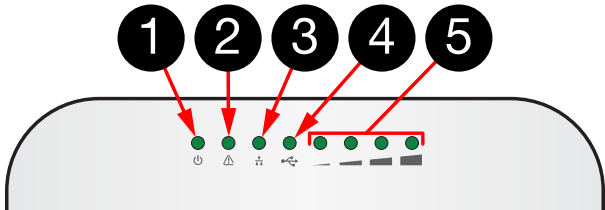
Note: The included PoE injector must be mounted indoors, as it is not weatherproof.

Technical Specifications



#	Interface	Type	Description
1	USB	USB-A	USB port for connection to your modem.
2	Console	RJ-45	Not in use.
3	Ethernet Port	RJ-45	Gigabit Ethernet port with PoE support up to 7.3W. Default IP address: 192.168.1.2
4	AP/Bridge	RJ-45	PoE output. Provides 48V DC and network connectivity.
5	Ground	Copper	Electrical ground connection for the the PoE Injector.
6	Network	RJ-45	Connection to the network.
7	DC In		Provides 48V DC to the PoE injector. 100-240V AC, 50-60Hz, 1.5A max adapter

LED Specifications



#	LED	State	Description
1	Power	Green	The unit is on.
		Flashing Green	The unit is booting up.
		Off	The unit is off.
2	Status	Green	The unit has successfully connected to the controller and ISP.
		Flashing Green	The unit is connecting to the ISP.
		Amber	The unit has successfully connected to the controller but not the ISP.
		Flashing Amber	The unit is connecting to the controller.
		Off	The unit is not connected.
3	LAN	Green	Port is connected at 1Gbps.
		Amber	Port is connected at 10/100Mbps.
		Flashing Green	Port is transmitting and receiving data at 1Gbps.
		Flashing Amber	Port is transmitting and receiving data at 10/100Mbps.
		Off	Port is not in use.
4	USB	Green	USB device recognized.
		Amber	USB device not active or disabled.
		Flashing Amber	USB device not recognized or has an error.
		Off	No device connected or port disabled.
5	Signal Strength	Off	No signal, or signal indicator not supported for this USB device.
		1 Bar	Weak signal.
		2 Bar	Okay signal.
		3 Bar	Good signal.
		4 Bar	Strong signal.

Cautions and Warnings

Environmental Specifications

Operating Temperature — 0 to 55°C (32 to 131°F) If this device is installed in a closed or multi-unit rack assembly, the rack's ambient temperature may be greater than the room's ambient temperature. Make sure the rack environment is compatible with the manufacturer's maximum rated ambient temperature (T_{ma}).

Température ambiante élevée — 0 à 55 ° C (32 à 131 ° F) Si cet appareil est installé dans un cabinet fermé, la température ambiante du cabinet peut être supérieure à la température ambiante de la pièce . Assurez- vous que l'environnement dans le cabinet est compatible avec la température ambiante maximale du fabricant (T_{ma}).

Storage temperature — -20 to 70°C (-4 to 158°F)

Température d'entreposage — -20 à 70 ° C (-4 à 158 ° F)

Humidity — 5 to 95% non-condensing

Humidité — 5 à 95% sans condensation

Operating altitude — < 2250 m (7380 ft)

Altitude opérationnelle — <2250 m (7380 pi)

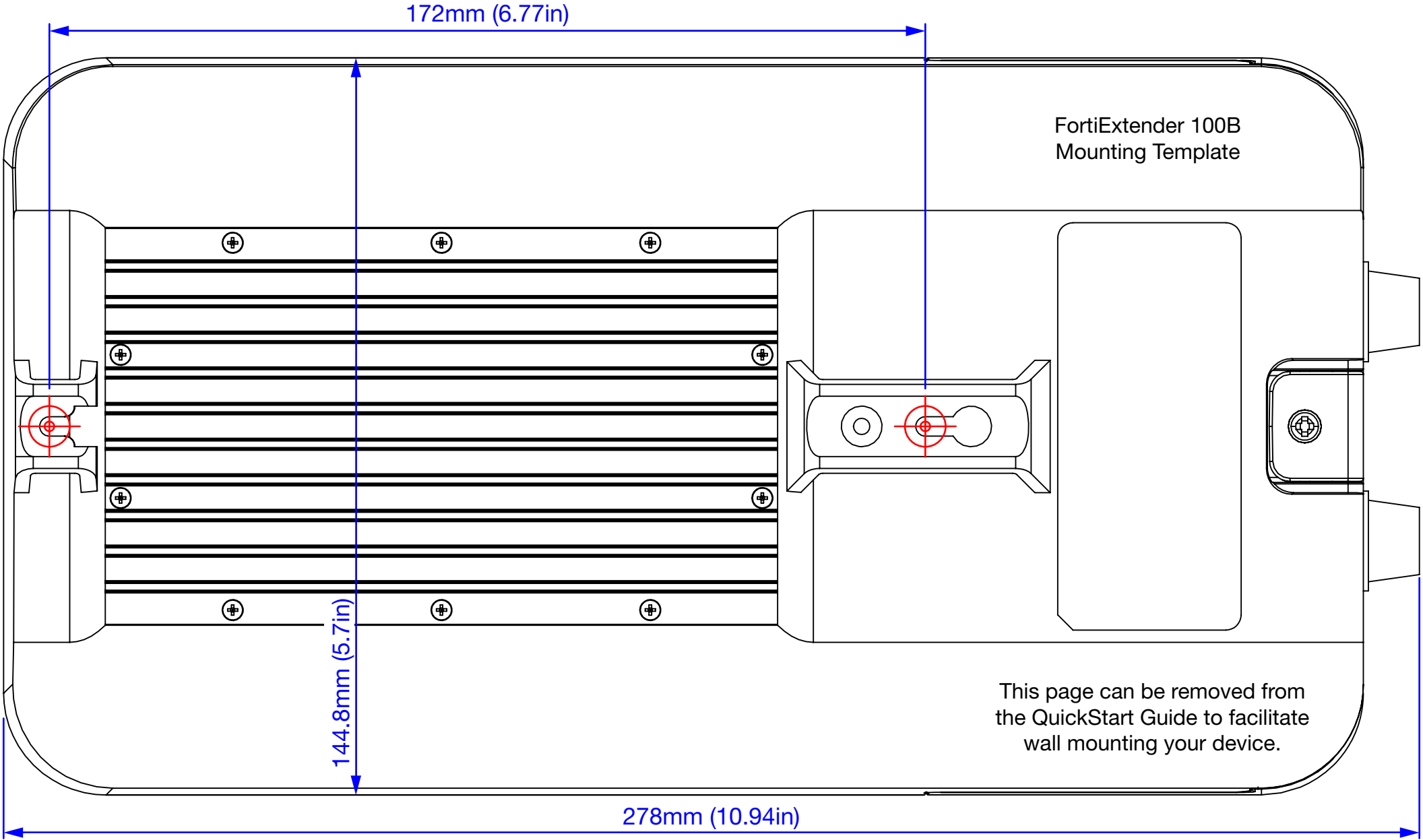
Air Flow — For rack installation, make sure that the amount of air flow required for safe operation of the equipment is not compromised. For free-standing installation, make sure that the appliance has at least 2 inches (5 cm) of clearance on each side to allow for adequate air flow and cooling.

Ventilation — Pour une installation dans un cabinet, assurez-vous que la ventilation nécessaire au fonctionnement de l'équipement n'est pas compromise. Pour une installation autonome, assurez-vous que l'appareil dispose d'au moins 2 pouces (5 cm) de dégagement de chaque côté pour permettre l'écoulement de l'air et un refroidissement adéquat.

Circuit Overloading — To avoid overloading, use the ratings on the label. Consider the equipment's connection to the supply circuit and the effect that circuit overloading might have on current protection and supply wiring.

Surtension — Pour éviter de surcharger le circuit d'alimentation, référez-vous aux notes sur l'étiquette de l'équipement . Envisagez l'effet que la surtension du circuit pourrait avoir sur la protection de surtension et le câblage d'alimentation.

Wall Mount Template



Reliable earthing — Make sure all rack-mounted equipment is grounded. This includes supply connections (e.g. power strips), not only direct connections to the branch circuit.

Mise à la terre — Assurez-vous que tout l'équipement est mis à la terre. Ceci comprend les connexions d'alimentation (par exemple, les barres d'alimentation) en plus des connexions directes au circuit de dérivation.

Power over Ethernet (PoE) — Do not use PoE injectors that are not IEEE 802.3af compliant. They may damage your device.

Alimentation par Ethernet — Cet appareil est conforme aux normes IEEE 802.3af. Ne pas utiliser d'autres injecteurs d'alimentation non conformes sous peine d'endommager votre matériel.

Interference — If possible, use Shielded Twisted Pair (STP) Ethernet cables instead of Unshielded Twisted Pair (UTP).

Interférence — Si possible, utilisez des câbles Ethernet de paire torsadée blindée (STP) plutôt que de paire torsadée non blindée (UTP).

Safety

Mechanical Loading — To avoid personal injury or damage to the appliance, Fortinet recommends that 2 or more people together install the appliance into the rack. Balance the equipment to avoid uneven mechanical loading and tipping. Do not place heavy objects on the appliance.

Installation — Pour éviter des blessures ou des dommages à l'appareil, Fortinet recommande que deux personnes ou plus installent ensemble cet équipement dans un cabinet. L'installation du matériel à l'intérieur de la baie doit être effectuée de façon à éviter toute situation dangereuse liée à une installation non conforme. Ne placez pas d'objets lourds sur l'appareil, celui-ci n'étant pas conçu pour soutenir un poids additionnel.

Electric shock / fire — To avoid risk of damage to your equipment, personal injury, or death, disconnect cables while servicing. Do not connect or disconnect cables during lightning. Do not use this product near water for example, near a bathtub, washbowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool. Do not use a telephone to report a gas leak while near the leak. Do not install this equipment in a home or public area accessible to the general population. When installed in schools, this equipment must be installed in a location where access is restricted to trained personnel.

Choc électrique / feu — Débranchez les cordons de la source d'alimentation avant tout entretien. Ne pas brancher ou débrancher les câbles lors d'un orage afin de ne subir aucun dommage corporel et éviter d'endommager votre appareil. Ne pas utiliser ce produit près de l'eau par exemple, près d'une baignoire, d'un lavabo, d'un évier de cuisine ou cuve à lessive, dans un sous-sol humide ou près d'une piscine. Ne pas utiliser un téléphone pour signaler une fuite de gaz à proximité de la fuite. Le produit n'a pas vocation à être installé dans un foyer ou un lieu public pour l'ensemble de la population. Dans les écoles, ce matériel doit être installé en lieu sûr, de façon à le rendre accessible seulement aux personnels qualifiés.

Grounding — To prevent damage to your equipment, connections that enter from outside the building should pass through a lightning / surge protector, and be properly grounded. Use an electrostatic discharge workstation (ESD) and/or wear an anti-static wrist strap while you work. In addition to the grounding terminal of the plug, on the back panel, there is another, separate terminal for earthing.

Mise à la terre — Pour éviter d'endommager votre matériel, assurez-vous que les branchements qui entrent à partir de l'extérieur du bâtiment passent par un parafoudre / parasurtenseur et sont correctement mis à la terre. Utilisez un poste de travail de décharge électrostatique (ESD) et / ou portez un bracelet anti-statique lorsque vous travaillez. Ce produit possède une borne de mise à la terre qui est prévu à l'arrière du produit, à ceci s'ajoute la mise à la terre de la prise.

Regulatory Compliance

Federal Communication Commission (FCC) – USA

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received; including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

WARNING: Any changes or modifications to this product not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

Industry Canada Equipment Standard for Digital Equipment (ICES) – Canada

CAN ICES-3 (A) / NMB-3 (A)

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

European Conformity (CE) - EU

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



Voluntary Control Council for Interference (VCCI) – Japan

この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。V C C I – A

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China

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The following Fortinet web pages provide information and resources for your Fortinet product:

1. Fortinet Customer Service & Support: <https://support.fortinet.com>

On this page you can create a support account with Fortinet, register and manage your products, download updates, firmware images and release notes, and create technical support tickets.

2. Fortinet Document Library: <http://docs.fortinet.com>

This page provides the most up-to-date versions of Fortinet publications for the entire family of Fortinet products.

3. Technical Discussion Forums: <https://support.fortinet.com/forum>

This page allows you to communicate with other customers and Fortinet partners about Fortinet products, services, and configuration issues in a forum environment.

4. Training Services: <http://campus.training.fortinet.com>

This page provides course descriptions, availability, schedules, and locations of training programs in your area.

5. FortiGuard Threat Research and Response:
<http://www.fortiguard.com>

This page provides up-to-date information on vulnerabilities and threats, and includes a virus scanner, Internet Protocol (IP) signature look-up, web filtering tools, and related information.

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Register your Fortinet product in order to receive:

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